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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/084,608

02/26/2002

Norio Koma

349

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26021

7590

04/05/2005

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EXAMINER

WANG, GEORGE Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,608

Applicant(s)

KOMA, NORIO

Examiner

George Y. Wang

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-16 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/162,984.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 6, 2005 has been entered.

Election/Restrictions

2. Newly submitted claims 20-25 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to the following patentably distinct species of the claimed invention:

(1) the specifics of a vertically aligned LCD comprising a plurality of orientation controllers comprising a first embodiment corresponding to claims 14-16;

(2) the specifics of a vertically aligned LCD comprising a plurality of orientation controllers that are associated with a corresponding pixel electrode to extend linearly comprising a second embodiment corresponding to claims 20-22;

(3) the specifics of a vertically aligned LCD comprising a plurality of orientation controllers where two or more electrode regions are disposed along one or more slits or projections comprising a third embodiment corresponding to claims 23-25.

3. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20-25 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicant is advised currently claims 14-16 are generic. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koma (U.S. Patent No. 5,608,556) in view of Yamada et al. (U.S. Patent No. 5,880,797, from hereinafter "Yamada").

6. As to claim 14, Koma discloses a vertically aligned liquid crystal display (fig. 4) comprising a vertically aligned liquid crystal layer (fig. 4, ref. 41) disposed between a plurality of pixel electrodes (fig. 4, ref 31) and a common electrode (fig. 4, ref. 32), where the orientation of the liquid crystal is controlled by an electric field (fig. 5, ref. 42), and where the common electrode comprises a plurality of orientation controllers (fig. 4, ref. 33a) formed in areas corresponding to each of the plurality of pixel electrodes.

However, the reference fails to specifically disclose each of a plurality of the pixel electrodes divided by one or more slits or projections into two or more electrode regions, which are electrically connected and arranged in parallel with each other, and each of the orientation controllers associated with a corresponding pixel electrode and having portions extending along the direction in which one or more slits or projections extend where one of the orientation controllers is disposed between the two slits.

Yamada discloses each of a plurality of the pixel electrodes (fig. 3, ref. 201) divided by one or more slits or projections (fig. 3, ref. 20) into two or more electrode regions, which are electrically connected and arranged in parallel with each other, and each of the orientation controllers associated with a corresponding pixel electrode and having portions extending along the direction in which one or more slits or projections

extend where one of the orientation controllers (col. 7, ref. 42-53) is disposed between the two slits.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have each of a plurality of the pixel electrodes divided by one or more slits or projections into two or more electrode regions, which are electrically connected and arranged in parallel with each other, and each of the orientation controllers associated with a corresponding pixel electrode and having portions extending along the direction in which one or more slits or projections extend where one of the orientation controllers is disposed between the two slits since one would be motivated to better control the axial-symmetric orientation axis (col. 4, lines 31-39) for improved excellent display characteristic with no display roughness (col. 7, lines 47-53). Furthermore, a display with enhanced viewing angle characteristic and transmittance is provided with a reduced number of production steps (col. 4, lines 59-67).

7. Regarding claims 15-16, Koma discloses the vertically aligned LCD as recited above, however, the reference fails to specifically disclose orientation controllers with sloped projections extending along the longer edge of the electrode region and branching at both longitudinal ends of a corresponding one of the electrode regions toward the corner section of the electrode.

Yamada discloses orientation controllers with sloped projections extending along the longer edge of the electrode region and branching at both longitudinal ends of a corresponding one of the electrode regions toward the corner section of the electrode.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have orientation controllers with sloped projections extending along the longer edge of the electrode region (fig. 4a) and branching at both longitudinal ends of a corresponding one of the electrode regions toward the corner section of the electrode (fig. 4b) since one would be motivated to better control the axial-symmetric orientation axis (col. 4, lines 31-39) for improved excellent display characteristic with no display roughness (col. 7, lines 47-53). Furthermore, a display with enhanced viewing angle characteristic and transmittance is provided with a reduced number of production steps (col. 4, lines 59-67).

Response to Arguments

8. Applicant's arguments filed January 6, 2005 have been fully considered but they are not persuasive.

Applicant's main argument is the Yamada reference does not disclose a pixel electrode having a "slit." Applicant asserts that fig. 3, ref. 20 of Yamada is "concave portion" and not a slit. However, Examiner disagrees. First, nowhere in the claim language or the specification is the term "slit" defined as a cut in the electrode as Applicant presumes. While Applicant supplies a definition from the Oxford English Dictionary that defines "slit" as a "cut" or "incision" or "aperture," Examiner notes that none of these definitions distinguishes the concave portion taught in Yamada. In fact, the concave portion of Yamada clearly has "an absence of an electrode" where the concave portion exists.

Applicant further argues that Yamada “does not disclose an electrode opposing a pixel electrode, and therefore includes no description or suggestion that an orientation controller is provided on a common electrode opposing the pixel electrode.” However, Examiner asserts that the Yamada reference need not teach this element since the Koma reference sufficiently discloses a vertically aligned liquid crystal layer (fig. 4, ref. 41) disposed between a plurality of pixel electrodes (fig. 4, ref 31) and a common electrode (fig. 4, ref. 32), where the orientation of the liquid crystal is controlled by an electric field (fig. 5, ref. 42), the common electrode comprises a plurality of orientation controllers (fig. 4, ref. 33a) formed in areas corresponding to each of the plurality of pixel electrodes. The Yamada reference, therefore, is only used to modify for the “slit,” as described above. And the reference provides more than adequate motivation to provide better control of the axial-symmetric orientation axis (col. 4, lines 31-39) for improved excellent display characteristic with no display roughness (col. 7, lines 47-53) and to provide an LCD with enhanced viewing angle characteristic and transmittance is provided with a reduced number of production steps (col. 4, lines 59-67).

As a result, Applicant’s arguments are not persuasive and Examiner maintains rejection.

Conclusion

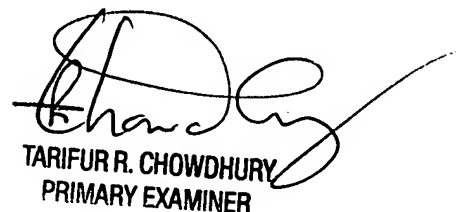
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw
March 31, 2005



TARIFUR R. CHOWDHURY
PRIMARY EXAMINER